

**To:** Mike Johnson[mike.johnson@copperenv.com]; 'Brown, Anthony R (RM)'[anthony.brown@bp.com]; 'Lombardi, Marc'[marc.lombardi@amecfw.com]; 'McCarthy, Dave T (Copper Environmental Consulting)'[dave.mccarthy@copperenv.com]; 'Andy Slavik'[Andy.slavik@copperenv.com]; abby.cazier@copperenv.com[abby.cazier@copperenv.com]; 'Doug Carey'[douglas.carey@waterboards.ca.gov]; 'Stetler, Chris@waterboards.ca.gov'[Chris.Stetler@waterboards.ca.gov]  
**Cc:** 'Greg Reller'[gr@burlesonconsulting.com]  
**From:** Deschambault, Lynda  
**Sent:** Tue 3/14/2017 3:24:48 AM  
**Subject:** RE: PowerPoint Slide Request - Leviathan

Thanks and I look forward to further discussions

Lynda

**From:** Mike Johnson [mailto:mike.johnson@copperenv.com]  
**Sent:** Monday, March 13, 2017 3:46 PM  
**To:** 'Brown, Anthony R (RM)' <anthony.brown@bp.com>; Deschambault, Lynda <Deschambault.Lynda@epa.gov>; 'Lombardi, Marc' <marc.lombardi@amecfw.com>; 'McCarthy, Dave T (Copper Environmental Consulting)' <dave.mccarthy@copperenv.com>; 'Andy Slavik' <Andy.slavik@copperenv.com>; abby.cazier@copperenv.com; 'Doug Carey' <douglas.carey@waterboards.ca.gov>; 'Stetler, Chris@waterboards.ca.gov' <Chris.Stetler@waterboards.ca.gov>  
**Cc:** 'Greg Reller' <gr@burlesonconsulting.com>  
**Subject:** RE: PowerPoint Slide Request - Leviathan

Lynda,

Here are some bullet points to support your upcoming slide presentation. Please let us know if you need additional information.

**Power Point Slide 1:**

Atlantic Richfield Monitoring Dates winter 2016-2017:

&#61623 December 2, 2016

&#61623 January 6, 2017

&#61623 February 1, 2017

&#61623 March 2017, site visit not completed yet

&#61623 During each event, field observations indicated that adequate pond storage was available, and there was no indication of beaver dam failure or restriction of the Leviathan Creek Culvert.

## **Power Point Slide 2:**

How Winter Moisture has/may affect ASB and HDS Treatment for 2017

ASB:

&#61623 Rain and snow has resulted in recent increases in flow through the ASB Treatment System; higher flows are expected during most of 2017.

- o More consumables, including Ethanol, NaOH, and propane, are anticipated to be necessary in 2017.
- o Remote monitoring has been important to adjust chemical dosing given changes in flow rates between site visits.
- o Increased flows do not appear to affecting ASB operating effectiveness

&#61623 Use of snowmobiles was necessary for January and February site visit.

- o Timing of trips was adjusted as necessary to avoid major storms.
- o Employee safety, including avalanche awareness, was a very important consideration following big storms.

HDS:

&#61623 The HDS Treatment System is not currently operating, so there has been

no current effect upon operations; however, the following items may be affected during the 2017 ARWS:

- o Increased flow rates of CUD and DS;
- o Higher than average initial volume of Pond 4; and
- o Increased use of consumables (lime, flocculant, diesel, fresh water).

**Power Point Slide 3:**

&#1623 Access road condition is currently affected by rock fall, rutting, and surface water runoff.

Hopefully this helps.

Thanks,

Mike Johnson, PE

Senior Engineer

406 East Park Avenue, Suite 2

Anaconda, MT 59711

Phone (406) 563-2700 ext. 309

Fax (406) 563-2701

Mobile (406) 560-5906

email: [mike.johnson@copperenv.com](mailto:mike.johnson@copperenv.com)

[www.copperenv.com](http://www.copperenv.com)

-----Original Message-----

From: Brown, Anthony R (RM) [<mailto:anthony.brown@bp.com>]

Sent: Friday, March 10, 2017 4:05 PM

To: Deschambault, Lynda; Lombardi, Marc ([marc.lombardi@amecfw.com](mailto:marc.lombardi@amecfw.com)); McCarthy, Dave T (Copper Environmental Consulting); Johnson, Mike (COPPER ENVIRONMENTAL CONSULTING); 'Andy Slavik'; [abby.cazier@copperenv.com](mailto:abby.cazier@copperenv.com); Doug Carey; Stetler, [Chris@waterboards.ca.gov](mailto:Chris@waterboards.ca.gov) ([Chris.Stetler@waterboards.ca.gov](mailto:Chris.Stetler@waterboards.ca.gov))

Cc: Greg Reller

Subject: PowerPoint Slide Request - Leviathan

Hi Lynda, Marc is out on leave so I will forward the below noted request for the three PowerPoint slides to Copper (Dave, Mike). Doug/Chris, can you provide the RWQCB visit dates? Hope this helps... Tony...

-----Original Message-----

From: Deschambault, Lynda [<mailto:Deschambault.Lynda@epa.gov>]

Sent: Friday, March 10, 2017 2:37 PM

To: Brown, Anthony R (RM); Lombardi, Marc ([marc.lombardi@amecfw.com](mailto:marc.lombardi@amecfw.com))

Cc: Greg Reller

Subject: RE: Leviathan Mine - OW - El Nino Monitoring January 7-9, 2017

Dear Mr. Brown.

I left a message for Marc Lombardi to assist with a request to present to AWG/CWSD next week about storm impacts on leviathan.

I would appreciate a list of the dates of your monthly site visits (and the date of your associated report to EPA) under the contingency plan for this winter season.

Powerpoint slide 1:

--EPA has a contingency/monitoring/notification plan in place

--RWQCB visits the site approximately monthly and provides reports to EPA. Those dates include:

--ARC visits the site approximately monthly and provides reports to EPA. Those dates include: ...Nov, Dec, Jan, 2/1/17....March(postponed/Safety access)

Powerpoint slide1:2: a couple sentences on each HDS and Bioreactor--and how/if the rains are impacting and/or might impact.

Powerpoint slide3: Any other updates/ figures/ stats regarding your monitoring. Bullet points for a powerpoint appreciated. For example

--Streamflow in Leviathan Creek is measured at Station 15, the USGS gaging station downstream of the beaver dam/pond complex but upstream of the confluence with Aspen Creek.

The January 8 high flow event approximately 40 cfs (~17,950 gpm) is the second largest flow event recorded at this site. The largest flow, 68 cfs (~30,520 gpm), was measured on December 31, 2005.

--No evidence of beaver dam failure

--No evidence of uncontrolled release.

Lynda

-----Original Message-----

From: Mike Johnson [<mailto:mike.johnson@copperenv.com>]

Sent: Wednesday, February 15, 2017 4:03 PM

To: Deschambault, Lynda

<[Deschambault.Lynda@epa.gov](mailto:Deschambault.Lynda@epa.gov)<<mailto:Deschambault.Lynda@epa.gov>>>

Cc: [anthony.brown@bp.com](mailto:anthony.brown@bp.com)<<mailto:anthony.brown@bp.com>>; Riley, Gary  
<[riley.gary@epa.gov](mailto:riley.gary@epa.gov)<<mailto:riley.gary@epa.gov>>>;  
[gr@burlesonconsulting.com](mailto:gr@burlesonconsulting.com)<<mailto:gr@burlesonconsulting.com>>; Dave McCarthy  
<[dave.mccarthy@copperenv.com](mailto:dave.mccarthy@copperenv.com)<<mailto:dave.mccarthy@copperenv.com>>>; Marc Lombardi  
<[Marc.Lombardi@amecfw.com](mailto:Marc.Lombardi@amecfw.com)<<mailto:Marc.Lombardi@amecfw.com>>>;  
[jboucher@broadbentinc.com](mailto:jboucher@broadbentinc.com)<<mailto:jboucher@broadbentinc.com>>; Carey,  
Douglas@Waterboards  
<[douglas.carey@waterboards.ca.gov](mailto:douglas.carey@waterboards.ca.gov)<<mailto:douglas.carey@waterboards.ca.gov>>>; Stetler,  
[Chris@waterboards.ca.gov](mailto:Chris@waterboards.ca.gov)<<mailto:Chris@waterboards.ca.gov>>  
<[Chris.Stetler@waterboards.ca.gov](mailto:Chris.Stetler@waterboards.ca.gov)<<mailto:Chris.Stetler@waterboards.ca.gov>>>; 'Jef Peake'  
<[jpeake@broadbentinc.com](mailto:jpeake@broadbentinc.com)<<mailto:jpeake@broadbentinc.com>>>; Cohen, Adam  
<[Adam.Cohen@dgsllaw.com](mailto:Adam.Cohen@dgsllaw.com)<<mailto:Adam.Cohen@dgsllaw.com>>>

Subject: RE: Leviathan Mine - OW - El Nino Monitoring January 7-9, 2017

Lynda,

Atlantic Richfield's last site visit was conducted on 2/1/2017. Please see the attached email. We currently visit the site approximately once per month for compliance sampling and Aspen Seep Bioreactor Treatment System (ASB) Limited Access Season (LAS) maintenance. Our next site visit is anticipated to occur during the first or second week of March, weather dependent. We will let you know if our schedule changes.

Thanks,

Mike Johnson, PE

Senior Engineer



406 East Park Avenue, Suite 2

Anaconda, MT 59711

Phone (406) 563-2700 ext. 309

Fax (406) 563-2701

Mobile (406) 560-5906

email: [mike.johnson@copperenv.com](mailto:mike.johnson@copperenv.com)<<mailto:mike.johnson@copperenv.com>>

[www.copperenv.com](http://www.copperenv.com)<<http://www.copperenv.com>>